SIMPLE METHODS

FOR THE

STORAGE OF ICE

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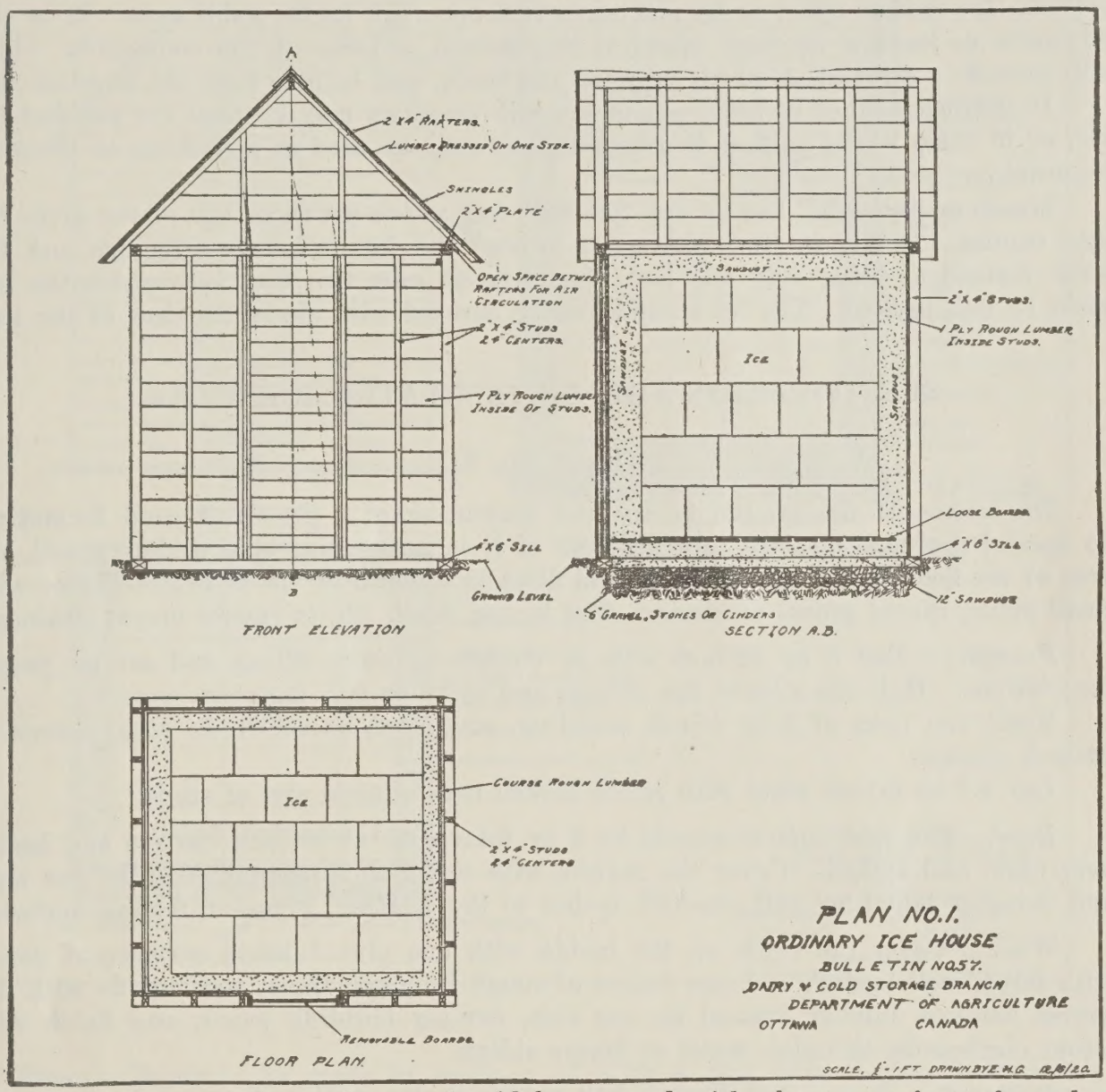
THE ORDINARY STORAGE OF ICE

Plan No. 1

The storage of a few blocks of ice for summer use is a very simple matter where the ice is readily available. Any unoccupied corner of a shed will serve for the purpose. A rough board enclosure ten feet square and eight feet high will hold enough ice to provide 50 pounds per day for 130 days, after allowing for a reasonable amount of wastage. The smaller the quantity stored, the larger is the proportion of waste.



The bottom of the enclosure should be covered with about one foot of sawdust. If the soil underneath is impervious clay, it will be all the better if there is a few inches of gravel under the sawdust. In putting in the ice the boards can be taken away from one side and replaced after the ice is in position. A space of one foot should be left between the ice and the boards to be filled with sawdust, and the ice should be covered with about the same thickness. It is the sawdust which keeps the ice from melting. The drier the sawdust is the better the ice will keep, and it is a good plan, as the ice is removed during the summer, to throw out from time to time the driest of the sawdust where it will be under cover and continue to dry out and thus be in better condition to be used again the following year. The ice should be cut in blocks of uniform size and packed as closely together as possible.

If it is necessary to erect a special ice-house, the roughest kind of a shed that will keep out the weather is all that is necessary. Poles may be driven into the ground and lined up on the inside with rough lumber or slabs, leaving a space of about three-eights of an inch between each board, and the whole covered with a roof to keep out the rain.

Plan No. 1 shows the construction of a building with 2 by 4-inch studding lined with rough lumber inside, and a space of three-eighths of an inch left between each board. If for any reason a building with a better finish and appearance is desired, the outside of the studs may be covered with clapboards, shiplap or other siding, with ample ventilation above the ice. Ventilation can be provided by leaving the spaces between the rafters open, or by placing louvre openings in the gable ends. It is also advisable to leave a two-inch space at the bottom and top of the clapboards, which will provide a circulation of air between the studs, and help to keep the sawdust dry.

If sawdust cannot be obtained, planer-mill shavings may be used for packing the ice, or in cases where neither is available, hay may be used as a packing or covering material.

Marsh or "slough" hay or any fine wild hay which grows in low places gives the best results. If hay is used, the space around the ice or between the ice and the walls instead of being only one foot, should be at least two feet, into which the hay must be well packed. The ice should also be covered with about two feet of the hay.

SPECIFICATION FOR AN INSULATED ICEHOUSE

Plan No. 2

Drainage.—If the ground is dry and porous, or of a gravel or sand formation, no special drainage need be provided, but if it is impervious clay or heavy soil, the area of the floor should be excavated and filled to a depth of six to twelve inches with small stone, coarse gravel or cinders, first laying drain tile to ensure proper drainage.

Framing.—Bed 6 by 12-inch sills in cinders or other filling and set on proper foundations. Half the sills at the corners and spike or bolt together.

Erect two rows of 2 by 4-inch studding, staggered, as shown in plan, spaced at 24-inch centres.

Lay a 2 by 6-inch plate with joints broken over outside row of studs.

Roof.—The roof rafters should be 2 by 6-inch set at 24-inch centres and heeled over plate and spiked. Cover the rafters with one-inch lumber dressed on one side, and shingles laid four and one-half inches to the weather, or other roofing material.

Walls.—Cover the studs on the inside with one ply of heavy waterproof paper, with joints well lapped, and one course of rough lumber. Cover the outside with one course hemlock lumber dressed on one side, two-ply building paper, and finish with either clapboards, shingles, metal or frame siding.

Filling for Spaces and Floor.—Fill spaces in the wall and cover the floor area with 12 inches planer-mill shavings or dry sawdust. The shavings or dry sawdust to be well packed in the walls to prevent settling.

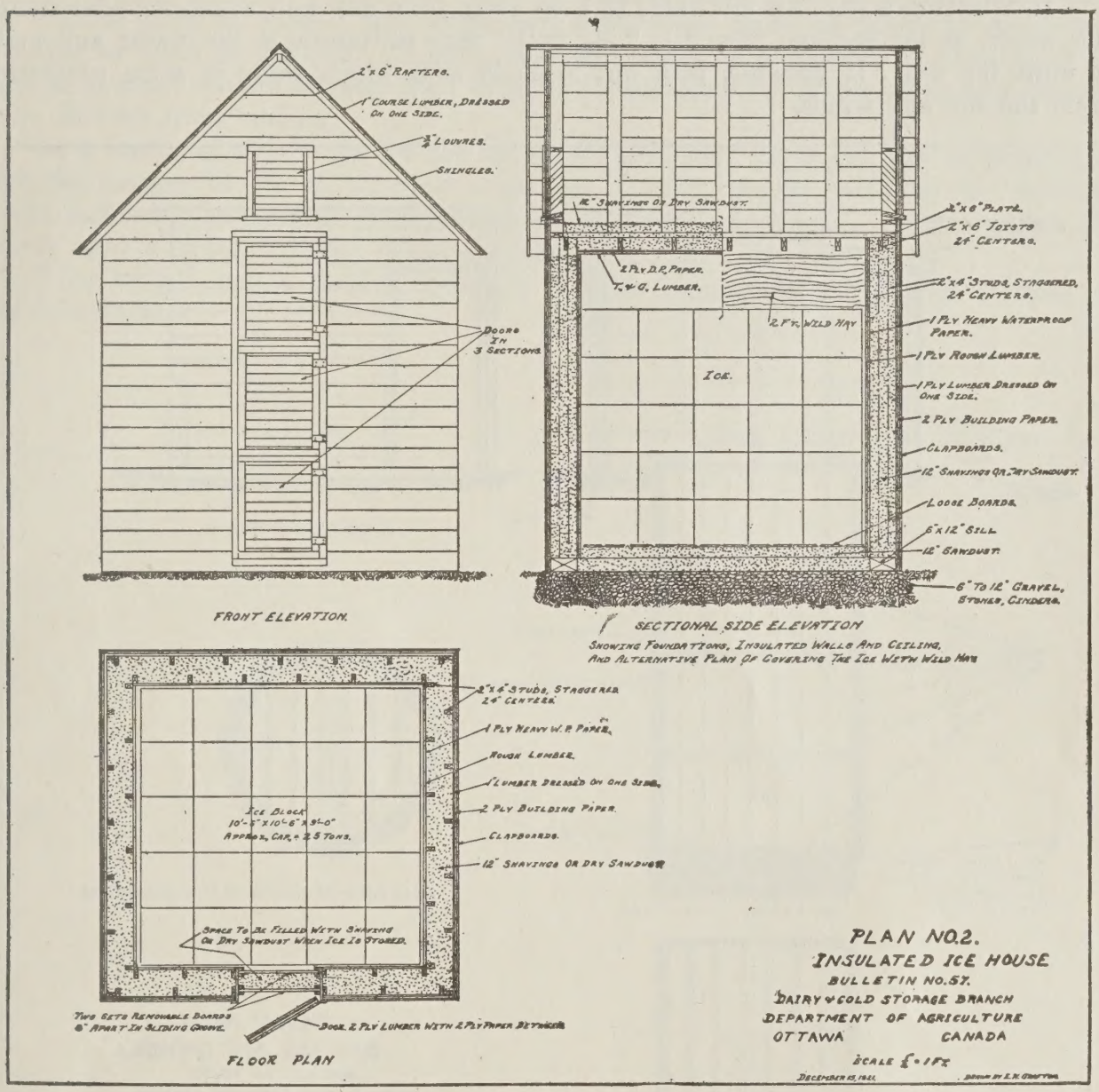
Ceiling or Covering for the Ice.—An insulated ceiling may be constructed with 6 or 8-inch joists lined underneath with two-ply damp-proof paper and one course tongued and grooved lumber. The space between and over the joists should then be filled with not less than one foot of planer shavings or dry sawdust.

Special Note.—Alternative insulation may be provided for the top of the ice, by dispensing with the insulated ceiling, and simply covering the ice with at least 2 feet of marsh or "slough" hay, or any fine wild hay grown in low places.

In filling the icehouse pack the ice close to the walls.

Ventilation.—The gable ends of the building should have louvre openings about two feet square, to ventilate the space above the ceiling or above the hay.

Good ventilation is a very important consideration when wild hay only is used as a covering material, and it is advisable to leave the spaces between the rafters open, in addition to having louvre windows in the gable ends.



Doors.—Doors to be made in sections of 3 by 4 feet with double lumber and two-ply paper between the lumber, and extend from the floor to the plate. The door frames to be fitted with two sets of removable boards inside the doors, allowing a space of about eight inches to be filled with shavings or dry sawdust after the ice is stowed.

NOTE.—Where planer-mill shavings or sawdust are not available for filling the spaces in the walls, wild hay may be substituted if the space in the walls is increased to at least two feet, and the hay well packed. Two feet of hay should also be placed underneath the ice.

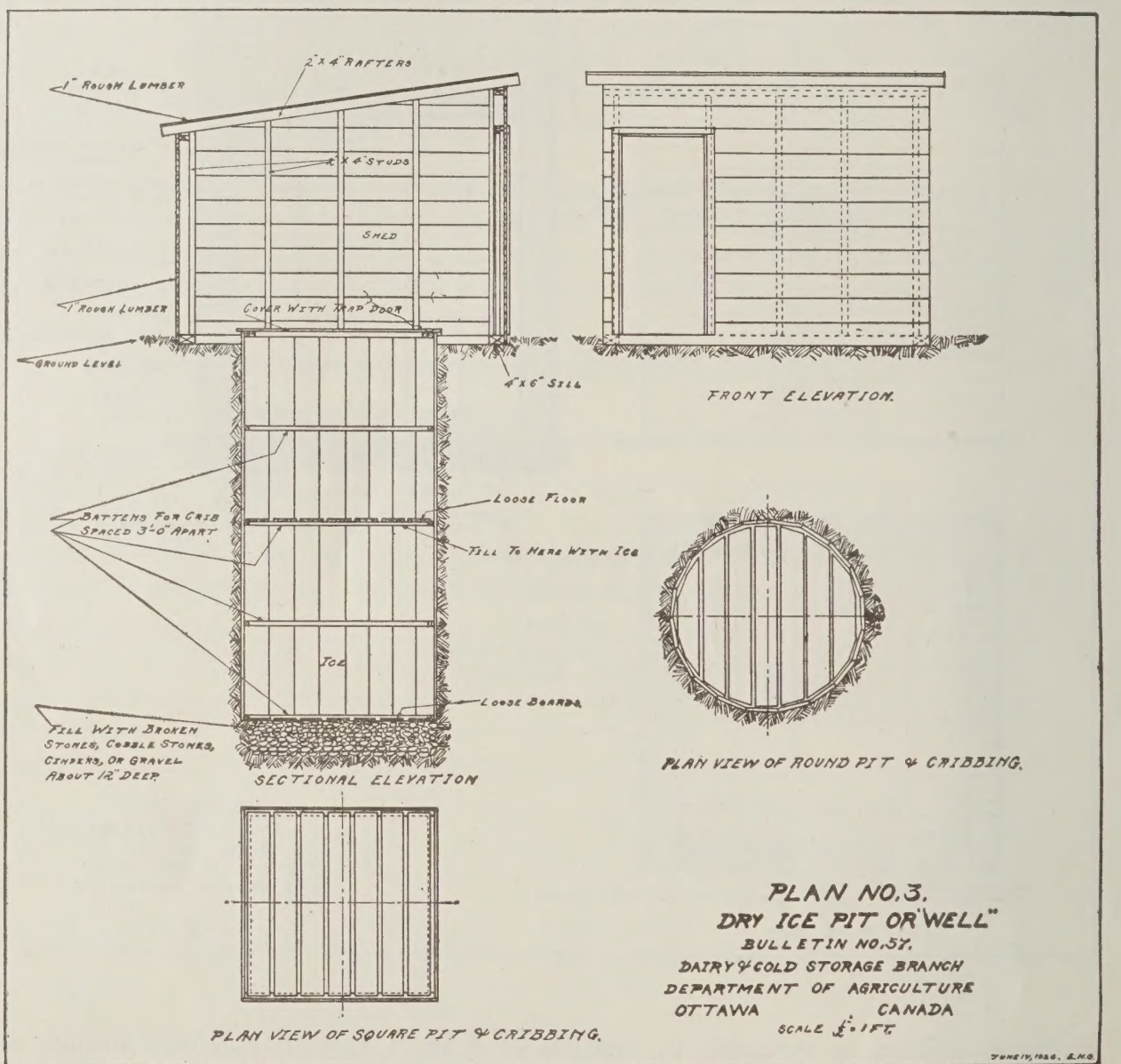
Size of Icehouse.—In estimating the size of the icehouse required, allow 40 cubic feet of space for each ton of ice to be stored, and at least 25 per cent for wastage.

SPECIFICATION FOR AN "ICE WELL"

Plan No. 3

"Ice wells" are used in some parts of the western provinces, including Manitoba, Saskatchewan and Alberta, for making ice during the cold weather, and then utilizing the space over the ice for cooling purposes during the summer months.

In selecting a site it is advisable to keep away from any well which supplies drinking water, as the seepage from the "ice well" may contaminate the water and make it unfit for use. If possible, pick out a shady spot where there is some protection from the sun and winds.



The "ice well" should be about 12 feet deep and of a diameter to suit requirements. The larger it is the longer the ice will last. A well, six feet in diameter, filled six feet in depth with ice, will hold about four tons.

The well should be cribbed as shown in the drawing to prevent the walls from falling in. It is very essential that the earth in the bottom of the well should be dry and porous, or that drainage be provided, otherwise, the water that results from the ice melting will collect in the well and cause the ice to melt in a very short time.

It is a good plan to bore four holes about 4 feet deep in the bottom of the well with a 6 inch test auger.

A shed with a removable roof should be constructed over the well. In filling the well during the winter months, take off the roof of the shed to get the full benefit of the outside temperature, then sprinkle the cribbing with water until it is covered

with a coating of ice. This will make it hold the water. In filling the well put in about four to six inches of water at a time, and allow it to freeze solid before adding more, until the ice reaches within three or four feet from the top. If it is available, the well may be filled loosely with blocks of ice, and water added gradually to fill the spaces, and thus make a solid mass.

A loose floor should be placed on cleats fastened to the cribbage just over the ice, and the top of the well covered with a trap-door and straw.

The space between the loose floor and the top of the well can be used to advantage for cooling milk or cream, and other products. Care must be taken to keep this chamber as clean as possible. If milk or cream is spilled it should be cleaned up at once to prevent odours arising that would be injurious and would offset any benefit to be derived from cooling.

As a means of preserving ice for household use, the "ice well" has no advantage over the storage of ice in a rough shed, but it does provide facilities for holding cream and milk, and for the cool storage of other articles of food, where a supply of ice cut from a stream or pond is not available.

"Ice wells" can be used successfully only in places where no water collects in the excavation.

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